



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,304	01/20/2004	Tsutomu Matsuo	H0 307T	7171

7590 06/14/2005

TAKEUCHI & TAKEUCHI
1700 DIAGONAL ROAD
SUITE 310
ALEXANDRIA, VA 22314

EXAMINER

HAMMOND, BRIGGITTE R

ART UNIT	PAPER NUMBER
----------	--------------

2833

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,304

Applicant(s)

MATSUO ET AL.

Examiner

Brigitte R. Hammond

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 8, 15-19 and 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants election of Species 1, fig. 1-3c without traverse is acknowledged.

Claim 19 has been elected by the applicants as part of specie 1. However, they are directed to Figure 4 (specie 2), thus they are also withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Accordingly, claim 19 has not been further treated on the merits.

Claim Objections

Claims 5, 6 and 9 are objected to because of the following informalities: in claim 5, line 2, change "lease" to - -least- -, in claim 9, line 9, change "sad" to - -said- -, in claim 21, insert - - other- - in front of "plugging edge", **in claim 10**, "said guiding slopes have different sloping angles corresponding to said connection pads" is unclear to the Examiner since Applicant has only claimed "at least one" guiding slope. For examination purposes, the Examiner shall assume the guiding slope has a different sloping angle than the connection pads; **in claim 11**, "said guiding slopes are offset" is unclear to the Examiner. For examination purposes, the Examiner shall assume the guiding slope is in a plugging direction; **in claim 6**, it is unclear to the Examiner what "it" refers to. For examination purposes, the Examiner shall assume "it" refers to the plugging edge. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,4-7, 9-14 and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pickles et al. 6,390,857. Pickles et al. discloses a transmission board comprising: a frame body 2, at least one surface board 4 that is supported by said frame body and has at least one transmission circuit with a connection pad 9 on a surface thereof; at least one plugging edge at 10 that is provided on said frame body and has at least one guiding slope at 13 for guiding a terminal of a mating connector toward said connection pad; and said plugging edge being made of plastic. Pickles et al. does not disclose the plugging edge being made of a resin molding. However, it would have been obvious to one of ordinary skill to make the plugging edge of a resin molding since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

Regarding claim 2, the plurality of said surface boards 4 are spaced at a constant distance by said frame body such that said transmission circuits are opposed to each other.

Regarding claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pickles et al. by constructing the boards to have a layer of air or material having a relative permittivity and a dielectric loss tangent that are lower than those of a glass reinforced epoxy resin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

Regarding claims 5 and 9, the transmission circuits include at least one ground 15 circuit and at least one signal circuit 14 provided on an outside and an inside of said surface board, respectively, and said connection pads are provided on said outside, with said signal circuit is connected to said connection pad through said surface board and least one ground connection pad provided on said outside and spaced from said plugging edge 10 but close to said signal connection pad, and said ground connection pad provided with an extended portion that is aligned with said signal connection pad.

Regarding claim 6, the transmission board further comprises at least one projecting guide (tip of 10) extending from an end of said plugging edge 10 in a plugging direction such that upon plugging with a mating connector, the plugging edge enters a corresponding groove 34 of said mating connector before said plugging edge abuts against a terminal of said mating connector and having at least one raised portion on a top or bottom face thereof.

Regarding claim 7, said transmission circuit provided on an inside (surface) of said surface board is connected to said connection pad provided on an outside at a position relatively close to an edge of said surface board.

Regarding claim 10, (as best understood), the guiding slope has a different sloping angle than the connection pads.

Regarding claim 11, (as best understood), the guiding slope is in a plugging direction.

Regarding claim 12, said plugging edge has a top face (see fig. 4) higher than said surface board on a side adjacent to said surface board.

Regarding claim 13, said frame body is provided with at least one projecting guide 8 that projects from said plugging edge in a plugging direction and has a vertical length that is larger than that of said plugging edge.

Regarding claim 14, the projecting guide is tapered in both vertical and horizontal directions (see fig 3).

Regarding claim 20, Pickles et al. disclose the frame body being provided with two said plugging edges 10,10, one of said plugging edges is provided at an end with a projecting guide 8 that projects in a plugging direction and has a vertical width larger than that of said plugging edge.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable Pickles et al. in view of Lemke et al. 6,692,272. Pickles et al. disclose the invention substantially as claimed except for the circuits have a characteristic impedance of approximately 100 ohms in differential operation. However, Lemke et al. discloses circuits having a characteristic impedance of approximately 100 ohms in differential operation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pickles et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Griffith et al. 4,298,237.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brigitte R. Hammond whose telephone number is 571-272-2006. The examiner can normally be reached on Mon.-Thurs. and Alternate Fridays from 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brigitte R. Hammond
Primary Examiner
Art Unit 2833

June 10, 2005